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AUTO 1238: Electrical/Electronic Systems

EFFECTIVE DATE

DEPARTMENT

Automotive Service Technician
DESCRIPTION

This course covers basic electrical theory, wiring diagrams, test equipment, and diagnosis, repair, and replacement of batteries, starters, and alternators. Topics include Ohm's Law, circuit construction, wiring diagrams, circuit testing, and basic troubleshooting. Upon completion, students should be able to properly use wiring diagrams, diagnose, test, and repair basic wiring, battery, starting, charging, and electrical concerns. This course is part of the full-time Automotive Service Technician Foundation Program.

CREDITS

7.0

YEAR OF STUDY

1st Year Post-secondary

PREREQUISITES

None

COREQUISITES

None

COURSE LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

- Describe principles of electricity and magnetism
- Use electrical test equipment to measure electrical signals
- Describe principles of electronics and circuit component operation
- Diagnose and service wiring systems
- Service 12 Volt batteries
- Use scan tools to access vehicle data stream information from a vehicle computer

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 70

Other: 105

INSTRUCTIONAL STRATEGIES

Classroom activities are lectures, demonstrations, audio-visual presentations and exercises. Practical experience takes place in an active shop setting. The extensive workshop experience provides reinforcement of theoretical concepts, develops hand skills, and familiarity with repair procedures, electronic equipment and standard safety procedures. All modules are designed to enable the student to work independently and in groups.

GRADING SYSTEM

Letter Grade (A-F)

PASSING GRADE

B-

EVALUATION PLAN

| Type | Percentage | Assessment activity |
|---------------|------------|---|
| Quizzes/Tests | 45 | Students are given multiple choice quizzes and tests throughout the course to assess their theoretical knowledge |
| Lab Work | 55 | Practical knowledge and skills are evaluated in the shop while students are working on training aids and customer vehicles. |
| Lab Work | | |

COURSE TOPICS

- Circuit terminology
- Circuit concepts
- Electrical components
- Magnetic theory
- Electrical test equipment
- Electronic components
- Microprocessor systems

LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:
<https://www.vcc.ca/about/governance--policies/policies/>.
- To find out how this course transfers, visit the BC Transfer Guide at <https://www.bctransferguide.ca>.

Broadway campus

1155 East Broadway
Vancouver, B.C. Canada
V5T 4V5

Downtown campus

250 West Pender Street
Vancouver, B.C. Canada
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Annacis Island campus

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